



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,830	04/05/2004	Shinichiro Minato	1259-0248PUS1	2715
2292 7590 06/22/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER SMITH, NICHOLAS A	
			ART UNIT 1742	PAPER NUMBER
			NOTIFICATION DATE 06/22/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/816,830	MINATO, SHINICHIRO	
	Examiner	Art Unit	
	Nicholas A. Smith	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 4-6 remain for examination. Claims are now the claims that were presented in previous claim amendment 16 March 2006 (previous round of prosecution), with the exception that claim 4 is rewritten in independent form.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-6 recite the limitation "said objected salt concentration" in claim 4, line 16. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, Examiner will interpret this limitation as defined in formerly cancelled claim 3.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission in the background section of the specification of the instant application (page 1 line 14 - col. 2 lines 8) in view of Balisky (US 6,521,112) as evidenced by Nishino et al. (US 5,152,877) and as evidenced by Graf (US 2001/0015323).

6. Regarding claim 4, the applicant admits (page 1 line 14 - col. 2 line 8) a method for controlling a concentration of an electrolytic solution for making an electrolytic treatment of a metallic material, comprising the steps of: measuring a acid concentration of acid in said electrolytic solution; measuring a salt concentration of salt which is generated by ionizing part of said metallic material in said electrolytic solution in said electrolytic treatment; and using a controller for controlling the concentration of each component in the electrolytic solution, which would inherently include adding at least one of a dilution liquid and a fresh acid according to said measured acid concentration and said measured salt concentration, as evidenced by Graf's method of adding fresh electrolyte (containing acid) or diluting by means of water (paragraph [0027]). With respect to the generating a salt concentration by ionizing part of said metallic material in said electrolytic solution, the Examiner asserts that the electrolytic roughening of the admitted prior art would inherently include generating a salt concentration by ionizing part of said metallic material in said electrolytic solution as evidence by Nishino et al. (col. 7, lines 22-42).

7. Still regarding claim 4, the admission does not include adding at least one of a diluting liquid and a fresh acid according to a current value of said electrolytic current supplied during said electrolytic treatment.

8. However, Balisky teaches (abstract) a method of controlling the content of an electrochemical bath, wherein replenishment of the constituents of the bath is determined in response to measurement of the ampere-hours (i.e. current value) in order to replenish constituents as they actually are consumed. It would have been

obvious to one of ordinary skill in the art to modify the method of the admitted prior art by replenishing the diluting liquid or acid constituent according the current value of the electrolytic current supplied during the electrolytic treatment in order to replenish the constituents as they are actually used.

9. Regarding claim 4, the method of the admitted prior art does not specifically disclose include calculating a feed cycle of adding a predetermined amount of said diluting liquid from said measured salt concentration and said current value.

10. Balisky teaches calculating a feed cycle of adding a predetermined amount of said diluting liquid from said measured salt concentration and said current value (col. 3, line 51 to col. 4, line 41). It would have been obvious to one of ordinary skill in the art to modify the method of the admitted prior art by Balisky's calculating a feed cycle in order to precisely replenish the electrolytic bath (Balisky, col. 3, lines 56-62).

11. Regarding claim 4, Balisky teaches adding a correction value to measured acid concentration to obtain a corrected acid concentration being set as a new measured acid concentration (col. 4, lines 55- 67). It would have been obvious to one of ordinary skill in the art to modify the method of the admitted prior art by Balisky's adding a correction value in order to precisely replenish the electrolytic bath (Balisky, col. 3, lines 56-62). The method of the admitted prior art in view of Balisky would inherently include calculating a difference from said measured acid concentration to an objected acid concentration; and adding said fresh acid to said electrolytic solution when said difference is larger than a predetermined limit value.

Art Unit: 1742

12. Regarding claim 4, the method of the admitted prior art in view of Balisky would inherently include that the current value is I, and A and B are optional constants, a standard cycle T_o for adding said diluting liquid to said electrolytic solution is $T_o = A/I + B$, and wherein said measured salt concentration is PVa , said objected salt concentration is SVa , and C and D are optional constants, said feed cycle T for adding the predetermined amount of said diluting liquid is, $T = T_o \times (1 + C \times (PVa - SVa)) + D$.

13. Regarding claim 5, the applicant admits (page 1 lines 10-24) that the method of the prior art would apply to an aluminum plate used for a substrate of a PS plate.

14. Regarding claim 6, the applicant admits (page 1 lines 24-28) that the method of the prior art would include hydrochloric acid.

Response to Arguments

15. Applicant's arguments filed 17 April 2007 have been fully considered but they are not persuasive. In regards to Applicant's argument that Applicant's admission in view of Balisky does not expressly teach the claimed feed cycle $T = T_o \times (1 + C \times (PVa - SVa)) + D$, Examiner reminds Applicant that Applicant's admission in view of Balisky teaches the method of a feed cycle based of a measured salt concentration (PVa), an objected salt concentration (SVa) as well as a current value (I). Control schemes inherently have constants (A-D) used in them; the relationship of feed cycle (time applied) is inversely proportional to current applied would be inherent; the difference between the measured salt concentration and the objected salt concentration is directly proportional to feed cycle would be inherent. Thus, Applicant's admission in view of Balisky inherently teaches such a feed cycle as stated above.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

17. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1742

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NAS

ROY KING 
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700